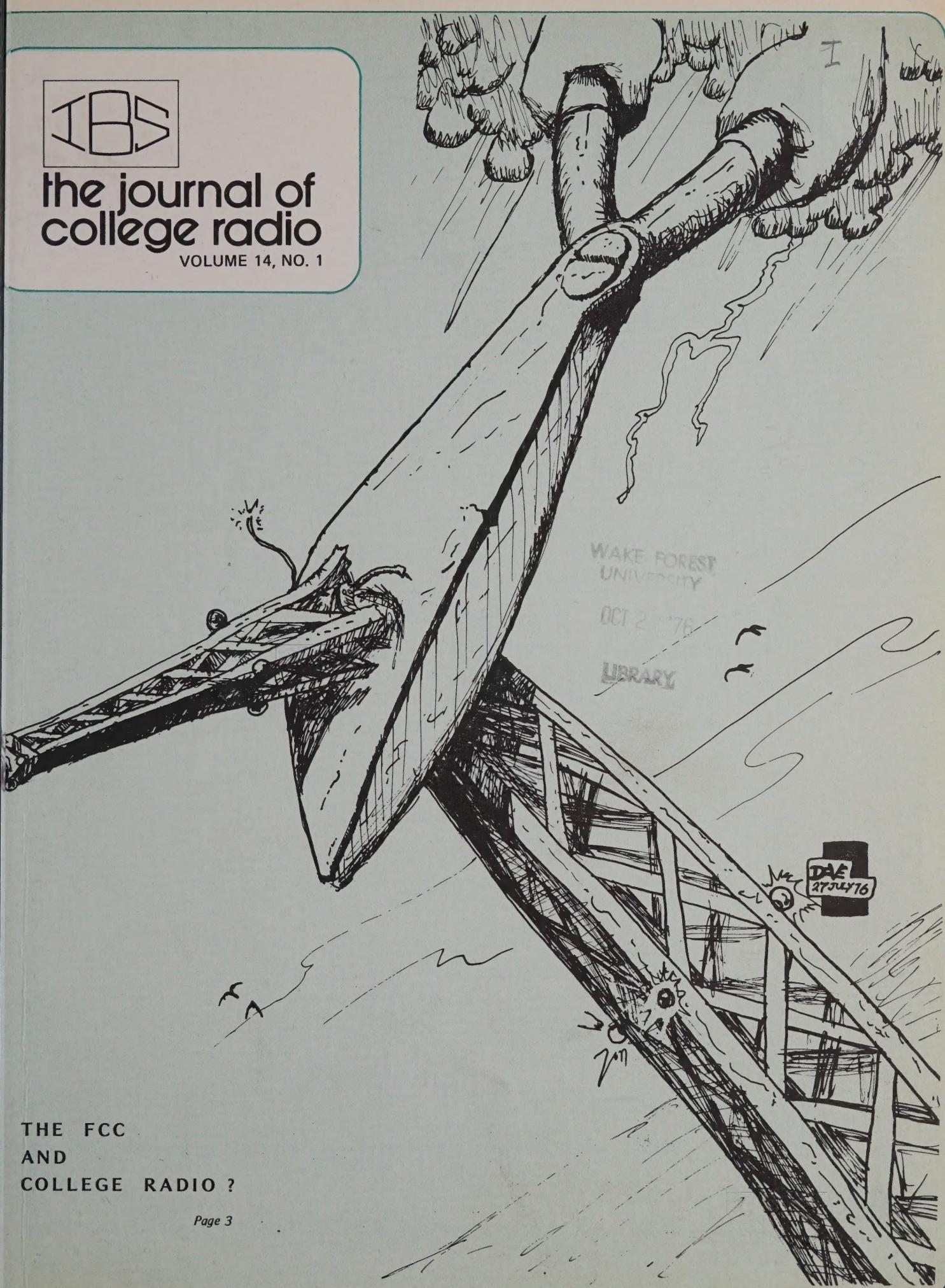


# the journal of college radio

VOLUME 14, NO. 1



THE FCC  
AND  
COLLEGE RADIO ?

# **GOING FM? WE CAN HELP YOU GET THERE**

We're Educational FM Associates and we're in business to help schools and colleges get on the air with FM broadcast facilities. We offer a complete service from the frequency search you must have to determine what channels are available for use in your area, right through to advice in selecting the equipment you need to get on the air

once you have your Construction Permit from the FCC. We are thoroughly experienced in all phases of the FM application process and stand ready to help you get your FM application prepared, on file, and granted by the FCC just as quickly as possible and at a minimum of expense. These are some of the services we offer:

- Complete frequency search and allocation study for your proposed location
- Preparation of printed and bound Engineering Reports detailing all information required by Section V of FCC Form 340
- Step-by-step guidance in preparing all other portions of FCC Form 340
  - Free loan of a copy of a granted application from our library to use as a model in preparing your own proposal
  - Final review of your application for completeness and accuracy before it is sent to the FCC
  - Free help in selecting the equipment you need to actually get on the air.

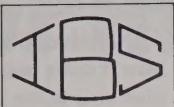
During the past year we've helped colleges and secondary schools all over the country build their own FM stations. We'd like the chance to work with your school as well. Call or write us for more information. We'll be glad to send you a

brochure which details the services we offer, lists our clients, and shows our standard schedule of fees. We think you'll find our rates very reasonable and we guarantee that all of our work will meet all applicable FCC technical specifications.



**EDUCATIONAL FM ASSOCIATES • 19 Bolas Road • Duxbury, Massachusetts 02332**

**Telephone: (617) 585-9200**



# the journal of college radio



OCTOBER 1976  
VOL. 14, NO. 1

Editors  
RICK ASKOFF  
DICK GELGAUDA  
PATRICIA MONTEITH  
NORM PRUSSLIN

Published by the  
Intercollegiate Broadcasting  
System, Inc.

#### Board of Directors

DR. GEORGE ABRAHAM  
HERBERT B. BARLOW, JR.  
DAVID W. BORST  
PAUL BROWN  
JIM CAMERON  
ROD COLLINS  
DICK DELGAUDA  
DON GRANT  
FRITZ KASS, JR.  
PATRICIA MONTEITH  
NORM PRUSSLIN  
LUDWELL SIBLEY

IBS, Inc. President  
JEFF TELLIS

Sales Office  
**Journal of College Radio**  
P. O. Box 592  
Vails Gate, N. Y.  
12584

## in this issue:

	page
Spirit of '76 — College Radio	3
Focus: America	6
Motivation	10

plus

An IC Distribution Amp For Under \$20	14
An Affordable IC Stereo Limiter	12
Shorts	4
From the Editor	2

*Cover Drawing by Dave Fitzpatrick, Boston, Mass.*

THE JOURNAL OF COLLEGE RADIO is published semi-monthly (October, November, February, March, April) by the Intercollegiate Broadcasting System, Inc. (a non-profit organization). Editorial, publishing and sales offices are located in New York State. Address all correspondence to The JOURNAL OF COLLEGE RADIO, Box 592, Vails Gate, N. Y. 12584.

The JOURNAL OF COLLEGE RADIO was founded in 1941 by the Intercollegiate Broadcasting System, Inc., using the title *IBS Bulletin*. The name was changed in 1955 to *IBS Newsletter*. In 1964 it became *College Radio* and in 1969, *The Journal of College Radio*.

Annual subscription price is \$5.00. Single copy price \$1.00, and the Annual, \$4.00. Outside the U.S.A. add \$1.00 per year for postage.

Send subscription order and changes of address to Circulation, The Journal of College Radio, P. O. Box 592, Vails Gate, N. Y. 12584. On changes please include both old and new address plus address label from back of Journal if possible.

Third class postage paid at New Windsor, N. Y. Printed by Commercial Offset Printers, Inc., New Windsor, N. Y., Graphics: Anchor Studio, Goshen, N. Y. Copyright 1976 by IBS, Inc. Second class postage permit pending.

# From the editor

The cover drawing for this issue is perhaps premature and slightly exaggerated, given the time of year that it was made, and the time that this is being written. However, in the summer of 1976, there could be no doubt that the matters before the Federal Communications Commission were going to have some effect on the normally undisturbed campus broadcasters . . . FM and Carrier Current. Depending on the outcome of the FCC

decision, the effect could be at best, slightly positive and at worst, profoundly negative. Hence, the "Shears from the Clouds."

Dick Gelgaua, of the IBS Board of Directors, wrote the cover story on the "Spirit of '76 - College Radio" early this Fall . . . before decisions in Washington were arrived at, because of the lead time required in printing and mailing JCR. Assuming that things are settled before then, we'll have a complete report on the shape-of-things-to-come in the next issue. On the other hand, some aspects just might be up in the air as you are reading this, and in that case, we again urge you to get involved on behalf of your station. Dig out the September IBS President's Newsletter from your pile of mail and find out what you can do to help. Remember . . . it's not only for your station, but for the station your successors will wind up with in the future.

This issue's feature article concerns the taping and production of one of the most popular IBS taped programs: Chuck

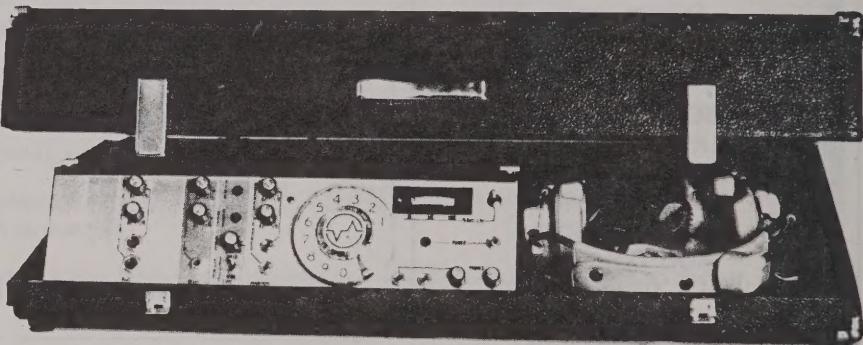
Bortnick's and Rick Arenstein's **Focus: America**. The article, written by the Faculty Advisor of the station where the show was produced, is included as a way to show not only how **Focus** was put together, but to also give you some ideas on how you might do this sort of thing at your own station and get them syndicated through IBS. Interested?

News and public affairs programming are coming to the foreground in almost all of our country's media, and College Radio is no exception . . . or is it? At the moment, there isn't really any way to tell since radio . . . particularly College Radio . . . is such a local phenomena. Therefore, JCR will now attempt to jump into the void of College Radio Journalistic Review by asking you what it is that your station programs in the way of News, Public Affairs, Documentaries, etc. Did your News Director come up with a great idea for scheduling newscasts? How about training news reporters and writers, both Campus and Community? How did

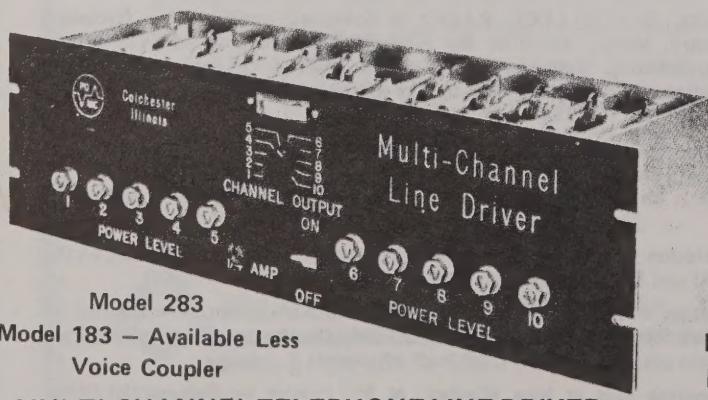
*continued on page 15*



## REMOTE BROADCASTING EQUIPMENT



**M288 REMOTE BROADCAST DIRECT DISTANCE  
DIALING REMOTE END CONSOLE  
(IN CARRYING CASE)**



Model 183 - Available Less  
Voice Coupler

### MULTI-CHANNEL TELEPHONE LINE DRIVER

**Ask For Catalog Of  
Remote Broadcast Equipment**

**PULSE DYNAMICS MANUFACTURING CORPORATION**  
P.O. Box 355, Depot Street, Colchester, Ill. 62326  
(309) 776-4111

# SPIRIT OF 76— COLLEGE RADIO

By DICK GELGAUDA

The summer of this our Nation's Bicentennial Year was universally a time of great hoopla and rejoicing across the land — a remembrance of 1776, when our independence was declared.

Now that the thunder of celebrant's fireworks has rolled beyond the American campus, midnight oil is burning at the college radio station. Its harried staff wondering if the fifes and drums also signaled the rise of a spirit of 1976: risen from the corpse of college radio.

This summer of '76, when much of college radio was closed down, or operating on a reduced schedule, was the season the Federal Communications Commission chose to request comments on two rulemaking proceedings. The first (Docket 20780) deals with carrier current AM stations, and the second (Docket 20735) deals with FM'ers.

## Carrier Current Power Cut 93%

Since IBS initiated the concept of carrier current in the 1940's, these stations have been authorized to operate without individual or station licenses under the condition that they accept interference from licensed broadcasters and other sources, and that they do not create interference in return.

The Commission, in attempting to reorganize the rules in Part 15 (which cover everything from spurious receiver radiation to wireless mikes), has proposed that carrier current stations be subjected to the same radiation power limits as many of these other devices. The perhaps inadvertant but nonetheless devastating effect of these proposed rules (deleting and replacing the  $\lambda/2\pi$  frequency-variable radiation limit with a flat 50  $\mu\text{V}/\text{m}$  at 30 meters) could force carrier current stations operating on the lower AM frequencies (most IBS members) to reduce their authorized power by up to 93%. Just imagine attempting to operate your station with 7% of the power you now use.

## Certification

Further, the Commission has proposed initial and annual certifications of the various carrier current transmitting devices, to be completed by a competent engineer using very expensive equipment, and that campus stations retain all interference reports (for 3 years) and that they maintain a copy of the Commission's instruction bulletin OCE-12.

IBS has proposed that carrier current stations (including those with 100 mW transmitters) be governed by a new and separate subpart of Part 15. Very briefly, this subpart (titled Campus Radio Systems) would include in one place all the rules your station now operates under but would eliminate the proposed rules concerning power and additional certification. In our opinion no need has been shown for these new rules.

IBS agrees with the Commission that reports of interference should be retained, but only to demonstrate how seldom such complaints are received. We also feel it in the best interests of the station to maintain a copy of Part 15 (not OCE-12) for perusal by a station's staff. IBS has had a long history of making rules, not breaking them.

Of course IBS pushed for extensions of time in which stations might file comments, and for severance of the campus radio issues from consideration with the rest of the docket. However, as of this writing, it is expected that the comment period will be over by the time you read these words. IBS did win one, or possibly two extensions but the Commission was reluctant to grant a lengthy enough delay to allow carrier current stations to comment in the Fall.

## FM Not Overlooked

Rulemaking docket 20735 was initiated by the Federally-funded Corporation for Public Broadcasting (CPB) on behalf of the public radio stations associated with

National Public Radio (NPR), and not by the Commission. CPB expressed the opinion that NPR affiliates and other high power noncommercial FM stations have the inherent right to noncommercial FM channels, regardless of the fact that there may be Class D (10 watt) college stations operating on or near those frequencies in the area at the time.

## The FM Proposals

Prior to examination of the validity of the CPB proposals, these are the proposals themselves:

\* All noncm'ml FM'ers must demonstrate service primarily for "community needs . . . of an educational, informational, and cultural nature" at renewal time.

\* Class D stations required to accept interference, change frequency, or go off the air entirely in congested spectrum areas, if Class A, B or C stations want to operate on the college station's, or adjacent, channels in that vicinity. Class D stations would have to foot the bill for any required freq. change.

\* Minimum operating hours for all noncommercial educational broadcasters of 36 or more hours per week, when averaged over a 52-week year, with a 5-hour/day minimum except on Sunday.

\* Share-time arrangements could be required for any station operating less than 72 hours per week.

\* New channel 200 (87.9 mHz) in areas where TV channel 6 is not allocated.

\* Class D stations operate between channels 200 and 300 (80 more)

\* Future protection (grandfathering) of Class A, B and C stations (more than 100 watts) up to the full power/height coverage area of the class, whether currently fully utilized or not.

\* Limit on new class D stations to a maximum antenna height above average

*Continued on Page 8*

# SHORTS



By the Chief Engineer (FCC):

1. On August 16, 1976, the Commission received a joint petition on behalf of the Intercollegiate Broadcasting System, Inc. and campus station WRIU Radio, requesting that the Commission (1) delete campus (carrier current) radio stations from the instant rule making, or (2) sever campus radio from the rule making and consider any technical questions in the pending campus radio rule making proceeding, Docket No. 19092, or (3) extend the time for filing comments from August 23, 1976 to January 1, 1977.

2. The petitioner believes that the proposed rules would substantially restrict the operation of campus radio and that additional time is needed to gather factual data on the potential impact of the proposed rules.

3. The Notice of Proposed Rule Making in this proceeding was released April 23, 1976, and provided for the submission of comments by June 23, 1976 and reply comments by July 8, 1976. In response to several petitions for extension of time, the comment date was extended to August 23, 1976 and the reply comment date to September 23, 1976. It should be noted that at least one of the petitioners had requested an extension of 120 days. Notwithstanding the substantial support for this request, only a 60 day extension of time was granted. In addition, we have also denied the petition filed on August 9, 1976 by Halstead Communications Inc. for an extension of time.

4. In view of the additional time already granted and the lack of adequate substantiation for the instant request, the Commission cannot find that a further extension of time is justified.

5. Petitioner has also requested in the alternative that campus radio stations be deleted or severed from the instant proceeding. The request to sever is based on the assumption that the matters raised in this proceeding can be disposed of in Docket No. 19092, which relates to campus radio, released April 9, 1971. Docket No. 19092, deals primarily with non technical aspects of campus radio such as source of programming and financial matters. The technical matters being considered in the instant proceeding Docket No. 20780 are beyond the scope of those raised in Docket No. 19092, and would be inappropriate to consider in that proceeding.

6. The request of Petitioner to delete campus from the instant proceeding is based on matters that go to the merits of this rule making proposal and will be considered along with the other comments filed in this docket.

7. Accordingly, under the authority granted by Section 0.241(d), IT IS ORDERED that the request by Intercollegiate Broadcasting System, Inc. and campus station WRIU Radio IS DENIED.

(s) Raymond E. Spence  
Chief Engineer

## OSU DENIED REQUEST FOR RADIO AUCTION

The FCC Commission has denied The Ohio State University, licensee of WOSU-FM(ED) and WOSU-TV(ED), Columbus, Ohio, permission to broadcast an auction as a fundraising event in support of the Columbus Symphony Orchestra.

OSU asked that it be permitted during the weekend of Nov. 12-14, 1976, to present a fundraising auction, whereby civic organizations and local retailers would donate services and merchandise to be sold to the highest bidder on behalf of the Columbus Symphony Orchestra.

The Commission said grant of OSU's request would result in a substantial liberalization of the FCC's policies to

permit the broadcast of additional commercial-like material on noncommercial stations. It said the broadcast of such matter was inconsistent with the non-commercial nature of educational broadcasting.

It said that while it agreed that the purpose of presenting the proposed auction is worthy, educational stations are licensed to provide a noncommercial broadcast service, not to serve as a fund-raising operation for other entities by broadcasting material that is "akin to regular advertising."

## NO METER READINGS FOR 10 WATTERS

The FCC clarified several confusing aspects of its rules recently, one of which was the question of meter readings for Class D stations. The ruling . . . Class D stations need not record meter readings in the operating log but must enter the time the station begins and ceases supplying rf energy to the antenna. Also, if you operate by remote control, the system must employ a fail safe circuit to terminate transmissions automatically should the control line fail.

## FREEZE SWAMPS FCC

In May, the FCC bogged down by a backlog of unprocessed applications for new and changed facilities, announced a six month freeze on all new AM and FM proposals starting July 1st. As a result, more than 500 applications were filed in June, many for new educational facilities. According to one FCC staffer, many of these proposals won't even be placed on cut-off lists until January and, perhaps, later. If your station filed for FM facilities in June . . . keep your fingers crossed but don't hold your breath waiting for the FCC to act.

## ASCERTAINMENT RULES ADOPTED

The FCC has adopted ascertainment rules for educational broadcasters similar to, but less strictly structured than, the procedures commercial stations have lived with for years. Only Class D outlets and those stations airing strictly instructional material are exempt from the new ascertainment rules which go into effect for license renewals due in April, 1977.

Submitted by Ed Perry, Jr.

### LPB TRANSMITTERS & AUDIO EQUIPMENT

Now available from B&W Sales  
Quality equipment at a  
reasonable price. Call or write

B & W SALES  
PO Box 37, Moorestown, NJ 08057  
609-667-6841

# DO54



less of  
a handful...  
more of a mike!

## One of the family

The DO54 joins a distinguished family of E-V dynamic microphones. Including the very popular 635A, the extended-range RE55, and the low-noise RE50. The new DO54 shares many characteristics with our other omnidirectional mikes, but its differences can provide a very useful alternative.

## The runt

First, the DO54 is slightly shorter and slimmer than a 635A. The first mike designed with the cable connector in mind. It's not tacked on. Looks great for handheld use, and it's easier to tuck away in odd corners.

## Truly full-range

Despite the miniaturization, the DO54 boasts a response of 50 to 18,000 Hz  $\pm$  3 dB. Which rivals some very expensive competition and makes it ideal for demanding close-in instrumental pickups.

## Full output

And the DO54 puts out. With level that matches the RE55, and a dynamic element that won't be overdriven by enthusiastic horns, drums, or close-up vocals.

## Quietly reliable

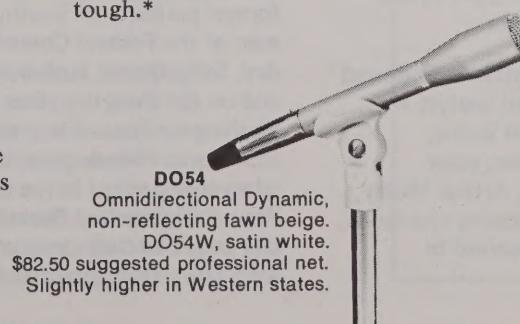
Our internal shock protection stops handling and cable noise with the best of them. And our Acoustalloy® diaphragm is almost indestructible. The DO54 easily earns the same unconditional protection against malfunction as all our other Professional Microphones. So its got to be tough.\*

## Add-on Flexibility

Of course the DO54 fits our 3/4" microphone options, like the security clamp (when you can't control access to the mike), a very neat stud mount adapter with switch, a most effective shock mount, and super Acoustifoam® windscreens.

In short (no pun intended) the DO54 is a versatile new omnidirectional dynamic in the best tradition of E-V. Dependably delivering great sound from a most modest package.

Hand your customers the answer to their toughest sound problems: the new Electro-Voice DO54.



\*If your DO54 fails to function for any reason (cable, connectors, and finish excepted) within 2 years of purchase, send it back. We'll fix it free. And fast. And there's no time limit to replacement or repair of faults in workmanship and materials. That's our limited Professional Warranty in a nutshell.

**Electro-Voice®**  
a gulton company

Dept. 1061CR, 641 Cecil Street  
Buchanan, Michigan 49107

# FOCUS: America

Have you ever wondered how to start a nationally syndicated program? Or how to get prominent guests to appear on a talk series? Maybe we can answer your questions by telling you about **FOCUS: America** produced at the WVUM-FM studios in the Department of Communications at the University of Miami, Coral Gables, Florida.

According to **FOCUS: America**'s first executive producer and host, Ric Arenstein, the series (which last fall was broadcast over 80 college stations through IBS syndication) "got started as a fluke and quite by accident."

A year and a half ago, Arenstein, along with WVUM's news director Larry Wallenstein, decided to do a news program — "Everything you always wanted to know about news, etc." (Fortunately, that title never got off the ground!) They were looking for news people as guests for the show when Arenstein learned that NBC's White House correspondent Tom Brokaw was in Miami and going to appear on the Phil Donahue Show. The Donahue show was originating from Miami at that time. Arenstein called the promotion director of a local television station for assistance in setting up an interview with Brokaw. The promotion director suggested interviews with Phil Donahue and actor George Hamilton who was also in Miami. During that telephone conversation, the forerunner of **FOCUS: America**, and its local counterpart, **FOCUS: Miami**, was born. **FOCUS: Miami** ran as a weekly half hour series on WVUM-FM during the Spring semester of 1975.

Arenstein had no trouble in getting guests. Wallenstein assisted Arenstein as producer of the series. They had full cooperation from the local media.

Although arrangements were made for George Hamilton to come to the University of Miami for a taped interview, it wasn't always possible to bring the guests to WVUM. Arenstein taped the interview with Phil Donahue at WIOD Radio, the Cox Station in Miami.

Guest sources came from the media: newspapers, magazines, publishers, and through the cooperation of the local television stations, in particular, WPLG-TV, and the staff of the station's "AM Miami" program.

Besides Donahue and Hamilton, Arenstein interviewed such notables as: Frank Mankiewicz, political analyst and press relation specialist for Kennedy; William Safire, columnist and former speech writer for Nixon; actor Stacey Keach of the *Caribe* television series; Arthur Hailey, author of *Airport*; and world heavyweight boxing champion, Muhammad Ali. The series was very well received in Miami.

At the end of a successful semester with **FOCUS: Miami**, Arenstein and Wallenstein joked about syndicating the series. But in a more somber mood, and wanting to share the series with other college stations around the country, they eventually contacted Rod Collins, program director for IBS, concerning possible syndication. Collins requested an audition tape. He applauded the tape and accepted the series, but suggested a change of title. **FOCUS: Miami** was too localized, hence the name **FOCUS: America** was selected.

Producing **FOCUS: Miami** was a lark compared to the prospects of producing a nationally syndicated series. They determined that ten shows would have to be produced for the Fall of 1975 and ten for the Spring of 1976. After the agreement was made with IBS to syndicate the series, Wallenstein had to drop out as producer of the series. He had to devote his efforts to a fulltime job in the news department at WIOD as well as his classes at the University of Miami. Chuck Bortnick, general manager of WVUM, replaced Wallenstein on the **FOCUS: America** team. Arenstein was faced with a double dilemma at the beginning of the Summer of 1975. He had to indoctrinate a new producer and get ten shows ready for the Fall.

Arenstein and Bortnick worked hard all that summer. They had to have a logo designed for **FOCUS: America** stationery and brochures. The brochures had to be prepared to mail to stations in the IBS network. It became apparent that the brochures had to carry some of the names of the guests who would be on the programs in the Fall in order to make **FOCUS: America** marketable. Therefore it was necessary to line up the guests weeks and months ahead of time. Fearful of last minute cancellations from guests, Arenstein and Bortnick decided to leave Miami on a road trip to interview guests. The complexity of lining up interviews on a multi-city road trip was overwhelming. Plus the prospect of the trip, the possibility of renting needed equipment, the staggering long distance phone bills and postage and printing costs, made it necessary to secure a grant.

Arenstein, through the cooperation of the University of Miami Division of Development Affairs, secured a grant from the Miami based Burger King Corporation. He presented a written program proposal with a list of guests and an estimated budget to the public relations-marketing department at Burger King. The grant for **FOCUS: America** was \$1,500 for the Fall of 1975, and a subsequent grant of the same amount for the Spring of 1976.

In August of 1975, Arenstein and Bortnick set out on what was to be a whirlwind road trip of five days, crisscrossing five cities, to get nine interviews. The first day of the trip, in Washington, D.C., Arenstein interviewed Nguyen Cao Ky, former premiere of South Viet Nam, and Richard Wiley, Chairman of the Federal Communications Commission: on the second day, Sally Quinn, authoress and former CBS anchor woman; and on the third day, Ben Bradlee, executive editor of the Washington-Post. They were scheduled to tape a second show that day in Philadelphia, but their timetable was thrown off when they arrived in the city and a bridge was closed due to a fire. Arenstein and Bortnick drove all the way around the city to get to their destination at the KYW studios. They were late. Their guest hadn't cancelled, but had to leave to

catch a plane, so no program could be taped. Arenstein ran into Muhammad Ali's business manager at KYW and was able to arrange for an interview with the champ the next day at the training camp in Deer Lake, Pennsylvania. (This would make up for the program they missed taping in Philadelphia). Then Arenstein and Bortnick returned to New York immediately to tape Larry O'Brien, commissioner of NBA and former post master general and chairperson of the National Democratic Committee. The next day they drove to Deer Lake for the interview with Ali, then back to New York for interviews with Steven Ross, chairman of the board for Warner Communications, and casting director Shirley Rich and the writer's of ABC's soap opera, **Ryan's Hope**. On the fifth and final day of the road trip, Arenstein and Bortnick drove to Princeton for an interview with George Gallup, Jr., president of Gallup Poll.

Arenstein returned to his home in Richmond, Virginia, after that trip, but managed to squeeze in one more trip before returning to Miami in September — he went to Toronto, Canada for an interview with Xaviera Hollander who wrote **The Happy Hooker**.

When Arenstein and Bortnick returned to the University of Miami in September, they decided to expand the series to an hour locally, retaining **FOCUS: Miami** for a half hour so as not to lose the local image established the previous semester.

For the Spring of this year, Arenstein was able to interview a number of guests in Miami. They included: former baseball great, Leo Durocher, author of **Nice Guys Finish Last**; Art Buchwald, syndicated columnist for the Washington Post; Maureen Dean, authoress of **Mo: A Woman's View of Watergate**; oddsmaker Jimmy "the Greek" Snyder; Columbia recording star Dave Mason; and Chaim Herzog, Israeli Ambassador to the United Nations. Arenstein and Bortnick did make a subsequent trip to New York to get interviews with contemporary artist Andy Warhol and talk show host Dick Cavett. An interview with Patty Hearst's attorney, F. Lee Bailey was next to the last show, and a session with Fanne Foxe, the "Argentine Firecracker" rounded out the season.

Arenstein and Bortnick received no salary for **FOCUS: America**. They split up the work on the series. Arenstein made all the contacts and arrangements with the guests, did research on the guests, read the published works, and hosted the series. Bortnick communicated with IBS, handled any problems with stations carrying **FOCUS: America**, engineered most of the shows, took care of dubbing the master tapes and mailing them to IBS, and handled the local and national publicity and promotion for the series.

The actual dubbing of the shows for all the stations was done through IBS. The cost to carry the series, determined at IBS, was \$35.00 for ten shows (\$3.50 per show, per station). That included tape, postage and handling.

Both Arenstein and Bortnick agreed that, if they had to do it all over again, they would try to do some things differently. They would line up the guests as early as possible in order to get all the names printed in the promotional brochure, thus fully utilizing the brochure to sell the entire series before air time. They would handle all of the promotion themselves by getting a computer printout of all the stations involved in IBS. This would provide for a more personalized handling of

the selling of the shows to stations. They felt that the \$1,500 grant was adequate for ten shows each semester, as long as multi-city road trips were set up where quite a few guests could be interviewed. Expenses ran \$300 to \$400 per trip, equipment rental was \$60 per day, and phone bills, printing costs, and postage ran anywhere from \$250 to \$500 per semester.

Bortnick feels the series had a good cross section of guests from sports, media, show business, politics, etc. Arenstein commented, "The success of the shows was in part due to a wide range of guests. But you have to keep pursuing them and be willing to dedicate yourself totally. You can't take the research lightly. You have to keep up with it. And, don't take 'no' for an answer . . . ever."

Both Arenstein and Bortnick have graduated from the University of Miami. **FOCUS: America** will be hosted and produced by Brad Evans and Ross Block, members of WVUM's news, public affairs, and sports staff. Evans is a communications major, and Block, a music and jazz major, and communications minor. Both are juniors at the University of Miami. **FOCUS: America** will take a semester hiatus and return to the air in the Spring of 1977.

by Heather Woodard Bischoff,  
Assistant Professor,  
Department of Communications  
and Senior Faculty Advisor, WVUM-FM  
University of Miami, Coral Gables, Florida

## Spotmaster®



### Model 500D Mono Record/Play

The traditional favorite of countless broadcasters — proven in more installations throughout the world than any comparable machine. Specifications and performance equal or exceed NAB requirements.

\$885.00

Playback only: \$645.00

BROADCAST ELECTRONICS, INC.

8810 BROOKVILLE ROAD

SILVER SPRING, MARYLAND 20910

PHONE (301) 588-4983



A Filmways Company

terrain of 100 feet.

\* TV channel 6 protection from FM interference by co-location of, or 60 mile minimum separation from, FM stations on the low noncommercial channels.

\* Increased vertical polarization allowed (to minimize TV channel 6 interference).

#### The Validity

Clearly, the establishment of a new FM channel 200, the use of 80 commercial channels by class D stations, and an allowed increase in vertical polarization, will not upset too many people in non-com'ml radio. However, the other issues in the CPB proposal are somewhat more complicated.

The Commission looks upon Class D stations (in the recent community ascertainment and EBS dockets) as "neighborhood" broadcasters. CPB has, in effect, gone one step further by pointing to the holes in coverage between these 10 watt facilities (sometimes within a single community), and to the extent of time utilization, or lack of it, of allocated frequencies.

Since the CPB arguments are based on service to the community, they appear to be fairly sound. Indeed none of us in broadcasting can doubt that community service is our prime reason for being allowed use of valuable spectrum. Those few college FM stations which operate less than 5 hours a day and/or close down for vacations may be particularly vulnerable to this argument.

However, the implication of the proposed rules is that NPR knows better than a college broadcaster what programming is required in the college's neighborhood. In the recent entertainment format docket, the Commission chose not to attempt format regulation. IBS is somewhat skeptical that CPB and NPR, with their specialized audiences, can know more about the needs of your college station's listeners than your college station.

#### Get Out Of The Kitchen

The adage probably used by our Nation's Founders in 1776, "Speak now or forever hold your peace," may be replaced in 1976 by "Get out of the kitchen if you can't stand the heat" if enough college

broadcasters do not speak their minds now. You know what makes your station strong. Get a copy of the docket relating to your station and write your own comments. IBS is only one voice . . . and could never speak all your thoughts.

**Act!**  
Don't let college radio become  
the spirit of '76.

*Editor's Note: Because of the lead time required in the printing of JCR, the future status of dockets 20735 and 20780 was not known when this article was written. For up-to-the-minute info. call IBS executive director Rick Askoff at the IBS Vails Gate, NY office:*

(914) 565-6710



## B-500 series



B-501 MONAURAL

B-502 STEREO

B-503 DUAL-CHANNEL

Superior performance • 5 mixers • 10 inputs • Plug-in modules

Choose your inputs

microphone, RIAA phono, balanced high level  
Standard is 1 microphone 4 balanced high level

Cue on all mixers—built-in cue speaker  
4 watts rms monitor amplifier  
full muting facility

from the "FULL CHOICE" line

**McMartin**

McMARTIN INDUSTRIES, INC. • 4500 SOUTH 76TH STREET • OMAHA, NEBRASKA 68127 • (402) 331-2000

**Consoles**



#### THE NOMINATIONS COMMITTEE

REQUESTS  
SUGGESTIONS  
FOR  
NOMINATIONS  
to the  
BOARD OF DIRECTORS

of the  
INTERCOLLEGIATE  
BROADCASTING  
SYSTEM

FOR THE TERM 1977-79

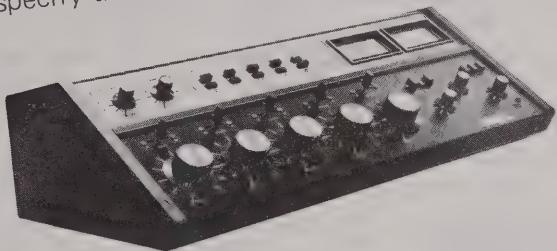
Please send history on your  
nominee to:  
DON GRANT, Chairman  
3J-2261 Palmer Avenue  
New Rochelle, N.Y. 10801

# *Spotmaster*

## easy-to-operate audio consoles

### a look at just 3 of the 16 spotmaster audio consoles

**5BEM 100** — a dual-channel five-mixer console with plug-in amplifiers and quality performance at only \$890. The 5BEM 100 provides twice the value and has the looks of a console twice its price. For stereo specify the 5BES 100 at \$1250.



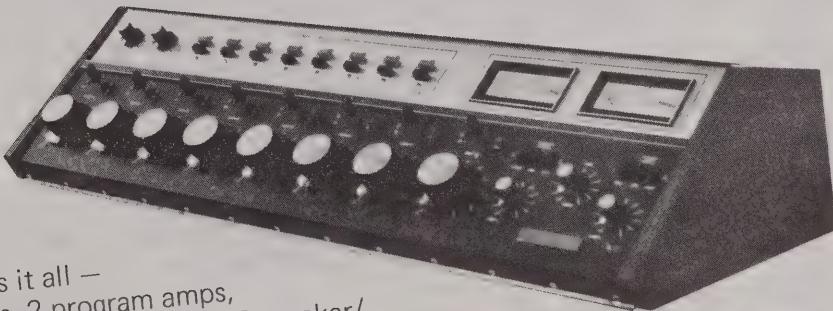
**4BEM 50** — a small console priced at only \$535, yet it contains many of the standard features of higher priced units: long-life, sealed mixers; speaker and headphone amplifiers; muting relays; eight inputs to four mixers with high or low level operation. An ideal unit for production or on-air use.

**8BES 100** — the pacesetter in value, stereo performance and superb styling.

At \$2195 this big eight

mixer stereo console has it all — 8 plug-in stereo preamps, 2 program amps, stereo monitor, headphone and cue amps, 2 speaker/cue/on air relays; accommodates 16 inputs. Monaural Model

8BEM 100 available at \$1470.



13 additional models available  
usually in-stock for fast delivery



A Filmways Company

BROADCAST ELECTRONICS, INC.

8810 BROOKVILLE ROAD — SILVER SPRING, MARYLAND 20910

Telephone: (301) 588-4983

CM has  
replacement

# PARTS

in stock for all

## Spotmaster

consoles,  
cartridge machines  
and accessories

Franchised Warranty & Repair  
Station for Spotmaster

## same day shipment

Via Airmail Special, Bus,  
United Parcel delivery

phone

**215-437-0607**

anytime—24 hours  
a day

Call CM

for best buys on  
broadcast components

. . . we're distributors for:  
Scully, DBX, Revox, LPB,  
Catel, Fidelipac, Russco, ROH,  
Scotch, Otari, Stanton, Telex



**Communication Medias**

A Division Of The William Challenger Corp.

Broadcast Component  
Distributors

P.C. Box 54/Allentown, Pa. 18105

# MOTIVATION

by DON KICE

One of the most important aspects of the college educational experience is the development of inter-personal relationships. These relationships are necessary not only for successful employment, but for life-long social well-being. The college radio station is the perfect place for people to get together in a situation with both clear objectives and elements of stress, learning, joy, disappointment and friendship. In fact, the college radio is a microcosm of the real world.

Hopefully, college radio station managers at all levels can periodically detach themselves from the day-to-day problems of managing a station and view their operations from a third person perspective. Often, they will find staff motivation to be the most neglected area. It is the easiest thing in the world for a manager to assume that things are finally running themselves, at least until that rude awakening which must come.

So how does a manager get his staff motivated and then keep it that way? Some are lucky enough to find themselves with salary, scholarships, or credits to throw around. Most of us, however, must rely on other factors: things sometimes much more difficult to generate. This discussion will, of course, not touch on all, or even most of these intangibles which go into the creation of an efficient, continuing organization. Some you may disagree with, some you may place on a low priority, but some may be beneficial when verbalized for your station.

Establishment of an atmosphere which will attract the maximum volunteer hours from those on your staff most capable of keeping your quality operation going, could be considered a high priority. Motivation becomes easy once people are happy coming to work. The majority of your staff will be most highly motivated when they know they are doing something useful, and that those they associate with are of a like mind. This means that managers must assign tasks worthy of the individuals involved, delegate enough authority and responsibility to insure probable completion (but without lack of control), and arrange that those staffers working together will be neither prima donnas nor incompetents. Never underestimate the difficulties generated by personality clashes.

A staffer who begins to feel that his talents are being wasted at your station will search out other activities more

to his liking and your loss. Authority and responsibility are two sides of a coin and cannot be separated, and those people who cannot work in an organizational environment — be they know-it-alls or know-nothings — must be limited in their participation or eliminated completely before they affect others and produce a disorganized environment.

If you noticed that the above paragraph is contradictory, you are quite right. Leaning too far in any direction will create problems in the others. Most often a manager will find himself in a grey area — somewhere between extremes. Working with personality factors not mutually exclusive is where any manager will sink or swim.

The easiest way to eliminate the dead wood which may affect the performance and motivation of your staff is never to hire them. The simple requirement that all station personnel, regardless of function, obtain FCC licenses prior to any involvement in your station will, in most cases, weed out potential staff with zero motivation. Hopefully your station is near an FCC office.

When a college broadcast manager finds himself with someone already on his staff who is clearly not a team player, he often says to himself "How can I fire someone not being paid?" Perhaps he should be asking how much more harmonious his operation would be without the individual. If handled correctly, a disagreement can be much less painful, for both parties, than anticipated. However, save any terminating procedures until you have tried everything else you can think of, including suspension and a good long talk over a beer or seven. Re-think your motives — managers have been known to be wrong on occasion.

Once station management finds itself with a staff able and willing to be motivated, it should waste no time in developing or expanding the motivational atmosphere.

Motivation by example is, many times, one of the most effective ways for a manager to point the way. No college station manager can afford the luxury of hiding in an office, detached from operations. He should take an active part in staff training, production, on-air broadcast if possible, supporting services, and

*continued next page*

# Could This Be You?

On June 18, a fire of unknown origin erupted in the Student Union Building at Central Washington State College in Ellensburg, Washington.

Before local fire-fighters could squelch the flames, extensive damage was done, and the entire facilities of campus radio station KCWS were destroyed, as was the adjacent bookstore and study lounge.

The station equipment and record library were not insured. Therefore, commercial stations within the state were contacted in hopes of gathering the necessary equipment by loan or donation to put KCWS back on the air.

Some equipment has come through, but mostly by loan and the main concern is the lack of funds to purchase new equipment so that borrowed equipment can be returned when and if it is needed. Every piece of donated equipment would help take the strain off.

The record library is not a disc jockey's dream — it consists of some duplicate 45's that were stored in the main office apart from the studio and also some albums rescued from the fire in addition to summer releases. So, some music is available, but the backlog is weak as far as requests are

## MOTIVATION *cont.*

most importantly, he should never be afraid to "take out the garbage."

Functions not directly associated with station operations, such as mixers, staff intermurals, picnics and the like will often assist in developing the esprit so necessary to motivational atmosphere. Broadcast staffs joining together in the production of change-of-pace happenings not only gain more experience, but they come away refreshed. A weekly staff drinking night at the local watering hole does wonders. A good manager must draw the line, however, at any extra undertakings which, in his opinion, will either detract from day-to-day operations or create staff division.

Plain, old-fashioned friendship and comradarie among staff, and between staff and management will do more for a station than anything else. Nurture and feed the all-important interpersonal relationships. Compliment your staff when they do well, and offer viable criticism when they err. Your staff wants you as a friend. Be one to them and not only will they perform for you, but you will be the beneficiary of their friendship.



concerned. Any help from affiliate stations of IBS would be greatly appreciated whether it is an album or a tape cartridge or whatever . . .

All in all, it's fortunate that KCWS is available to be on the air!

CONTACT: Dale "Scott" Carpenter, Manager  
KCWS AM/FM-CABLE  
Central Washington State College  
Ellensburg, Washington 98926  
963-1511 or 963-2311



## BROADCAST OPERATOR HANDBOOK PUBLISHED

A new Broadcast Operator Handbook is now available from the Government Printing Office. It was compiled by the staff of the Field Operations Bureau and is intended to serve as a comprehensive study guide for persons wishing to qualify for the Radiotelephone Third Class Operator Permit and the Broadcast Endorsement.

The Broadcast Operator Handbook (112 pages), Stock No. 004-00-00329-2, Price \$2.60, may be ordered from:

Superintendent of Documents  
U. S. Government Printing Office  
Washington, D. C. 20402

## the MCMARTIN 10 watt FM exciter



B-910 exciter

B-910T transmitter

ULTRA STABLE with automatic phase-lock sensing  
EASILY MAINTAINED with plug-in modular design  
CRISP, CLEAN SOUND from latest DCFM design

. . . a brilliant new addition to the "full choice line". The solid state B-910 is perfect for your new station, your 10 watt educational application or for updating your existing transmitter. This new exciter/transmitter brings you all the professional "know how" that McMartin has pioneered in SCA/Stereo.

Accessories: B-110 Stereo Generator

B-113 SCA Generator

transmitter

**McMartin**

McMartin Industries, Inc. 4500 South 76th Street, Omaha, Nebraska 68127 (402) 331-2000

# AN AFFORDABLE IC STEREO LIMITER

by JEFF SAINIO

Given the breathtaking price of commercial limiters, and the seemingly inefficient method of ganging two limiters for stereo use, making a stereo limiter on a budget more suited to the average college budget makes sense.

Circuit operation: The input is a noninverting amp with a gain of 6.6. Input impedance is 10k; change the value of the pot, or jump it with the appropriate resistor, if a different impedance is needed. If more gain is needed, change the 56k resistor to 100k.

Next is the limiter amp. The feedback resistor of this amp is a Vactec VT-732 photocell; its resistance varies from over 10M in total darkness to 3k or so in room light. As its resistance varies, so does the gain of the limiter amp. This amp feeds an output amp that allows variable output level. It also feeds the sumbias amp; this amp combines the left and right signals and biases the output to -5 volts. Any audio signals greater than 5 volts will forward bias the diode at the output of the sumbias amp, and charge the 47uF cap. The charge on the cap is doubled by the LED driver amp; the LED then shines on the photocells, raising the feedback, lowering the gain. A 100k pot drains the cap, setting the release time. To prevent excessive gain at low audio levels, the cap is kept charged to around 2 volts minimum by the Max Gain pot.

(Diagram 1)

A word on the photocells and LED: They are mounted on a black-painted part of the PC board and covered with anything that excludes outside light. I used a piece of PVC pipe, a black cardboard top, and black rubber cement to seal the cracks. The photocells must first be positioned so that, with a given current through the LED, both give identical resistance readings. Leave the leads long enough so that they can be juggled around somewhat.

If you want to meter the amount of limiting, put a third photocell in with the LED, and use the circuit shown. It will drive any meter that uses 20 or fewer mA; the 10k pot adjusts circuit sensitivity.

(Diagram 2)

Installation and Adjustment: Connect the limiter to a signal representative of your studio-output, and set the input volumes to zero. Set the bias pot so that the output of the sumbias amp is -5 volts. Set the release time pot to full resistance, and set the max gain pot so that the 47uF cap charges to 2v. Open the input pots till the output of the input amp is

about 1v AC RMS. The output of the limiter amp should be around .5-3v AC RMS. Then set the volume out pot to the desired level. The output will drive any load that requires less than 20mA. You may want to adjust the release time and max gain pots to your particular applications.

Some construction hints: If the power supply is physically distant from the Limiter, parasitic RF oscillations can cause distortion. Prevent the problem by putting a few microfarads from the B+ and B- lines to ground. Also, a pair of back-biased diodes at the same points will prevent damage from accidental power supply hookup reversal. Don't reverse the phase of the lines coming into the limiter. The sum-bias amp will subtract instead of add if you do. Keep the amplification of the limiter amp under 10. Hi frequency response will suffer if the gain goes above that. This can be done by proper setting of the input volume and max gain pots. If you are running mono, one channel can be eliminated and the 66k resistor at the input of the sum-bias amp changed to 33k.

If you are FM and want to keep modulation high, 75 micro-second deemphasis and preemphasis can be accomplished by adding .0015uF caps at the indicated points.

As presently installed, our limiter corrects for inputs of .2 to 2 volts (20 db) with the output varying no more than 20%. Frequency response is virtually flat from 0-20kHz. Distortion is not detectable on a scope linearity test.

Be sure that the input has no DC bias. If DC is present, put a pair of DC blocking capacitors at the inputs.

Conversion to RMS rather than peak limiting should be possible by adding a resistor in series with the diode at the output of the sum-bias amp. It seems that a resistor equal in value to the release time pot, and a change in the 10k feedback resistor in the LED driver amp, to 30k, would accomplish the desired effect. If you have the interest and equipment to try this, I would be interested to hear the results.

This circuit is sensitive to power supply hum. I would recommend the power supply shown, or an equally well regulated one.

(Diagram 3)

JEFF SAINIO is a part-time student and consulting engineer for WBKX Radio, and can be reached for correspondence  
c/o WBKX, Lee Hall  
Northern Michigan University  
Marquette, Michigan 49855

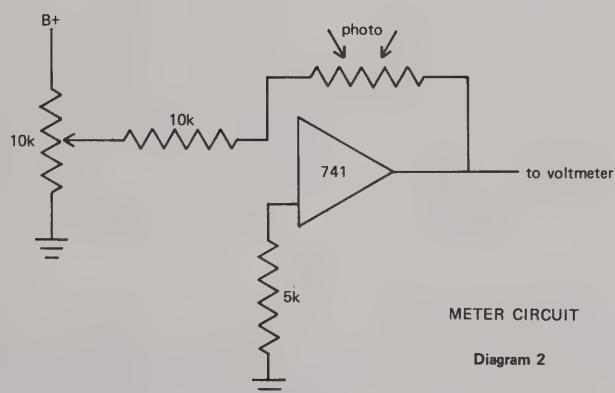
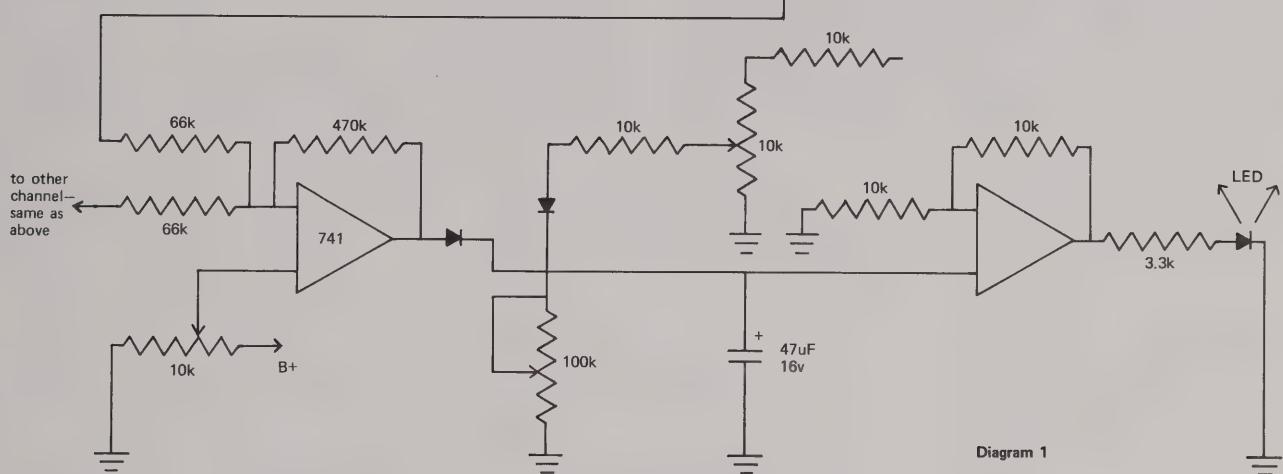
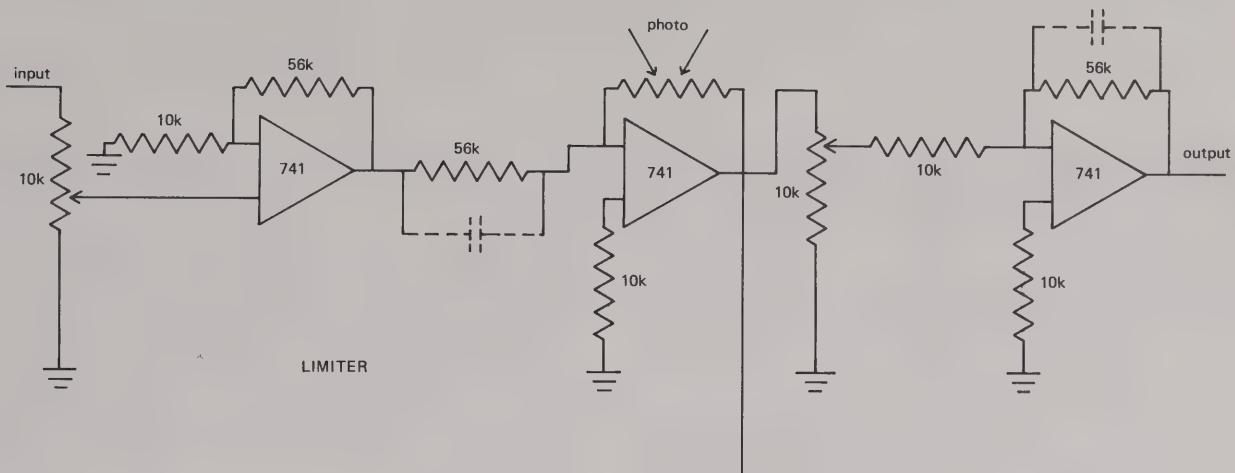
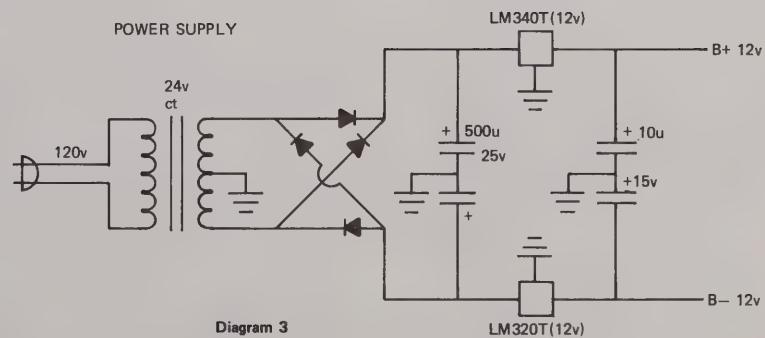


Diagram 2



## AN IC DISTRIBUTION AMP FOR UNDER \$20

JEFF SAINIO

Distribution amps to feed the phone lines of carrier current stations can be a difficult problem for the budget minded engineer. Most 6- or 10-output DAs run in the 3-figure price range. But with IC op amp circuitry a quality DA can be built with minimum cost.

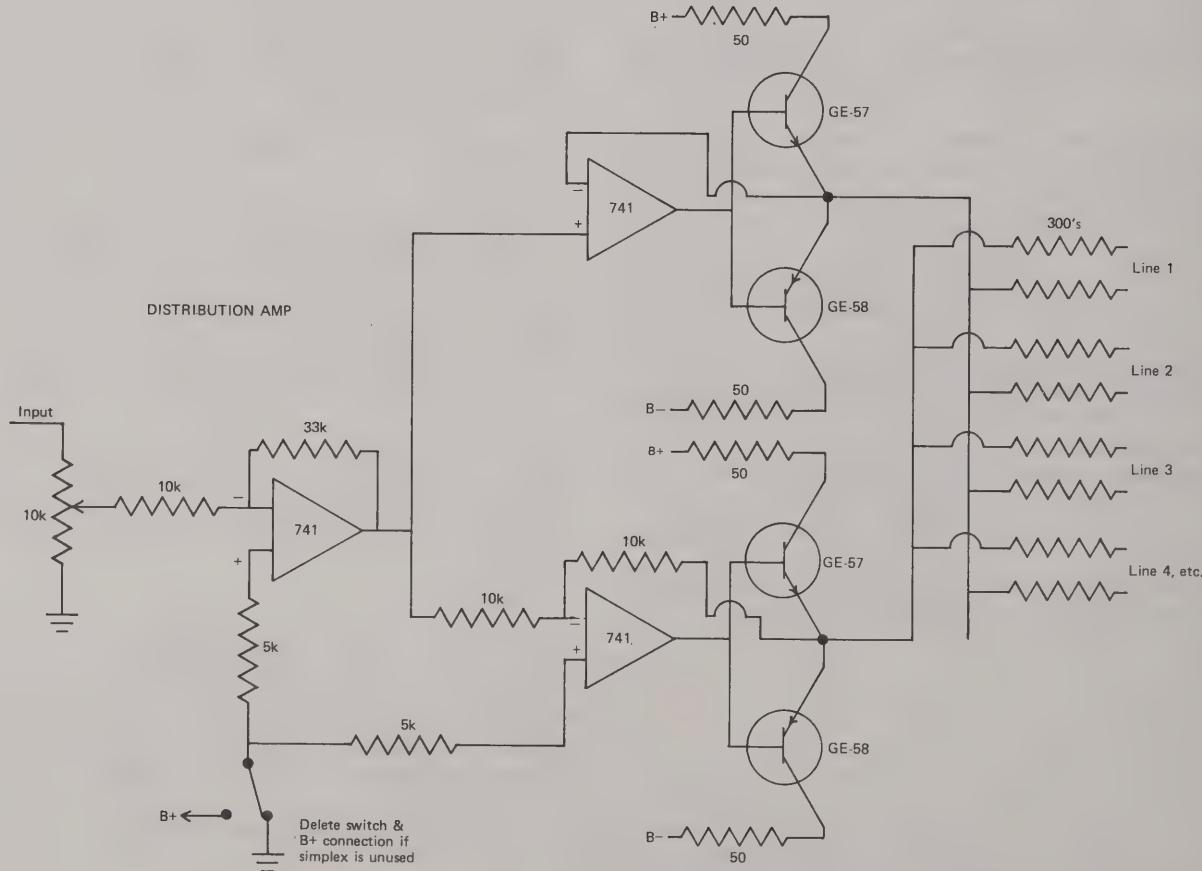
**Circuit Operation:** The input is a simple inverting amplifier with a gain of 3.3. It puts a 10k load on the source; if the source needs an impedance match, change the value of the pot, or jump the pot with the appropriate resistor. If more gain is needed, change the 33k resistor to 100k.

The input amp drives a voltage follower amp and an inverter amp, both with unity gain. The output transistors are driven in Class B complementary push-pull, and with at least 40 db feedback, crossover distortion is undetectable. The feedback also keeps the output voltage constant, regardless of the output loading. The 50-ohm resistors in series with the output transistors are purely for protection. Over 50 phone lines

could be driven with the DA, though the DA I built drives 6. Isolation is excellent; shorting 5 of the lines has no detectable effect on the sixth. Frequency response is virtually flat from 0-20 kHz.

**Some construction hints:** If the power supply is physically distant from the DA, parasitic RF oscillations involving feedback through the power supply can cause severe audio oscillation and distortion. The problem can be prevented by putting a few microfarads of capacitance from the B+ and B- to ground. Another good idea is to put two big (bigger than the capacity of the power supply) reverse-biased diodes at the same points. Thus accidental power supply reversal will not destroy the op amps.

**Simplex operation:** If you use DC control voltages on the phone lines to turn the transmitters on and off, a simple modification can accomplish this. Simply adding the switch shown will put +10 volts on all output lines, which drives relays to shut the transmitters off.



you recruit all of those eager news-hounds, and how do you keep them interested and active? All of this and more we'll be willing to print in a future issue of JCR, if you'll just take the time to send in a short (2-3 paragraph) summary of your station's news activities. The tentative title for the whole thing will be "College Journalism Review" . . . not because we're trying to be un-original, but because that's exactly what it will be. Now . . . before you start plugging away, take the time to read the box at the end of this article on submission of manuscripts. That way, we'll save each other a whole bunch of trouble, no doubt.

For those of you who are interested in such things, JCR is now being designed by a committee (and you know what that means) of four IBS-type individuals. Patricia Montieth, the Station Manager of WUMB in Boston (U. Mass) is our can-do Associate Editor; Dick Gelgaua is our FM editor but spends most of his time being General Manager of WUNH-FM at the University of New Haven, Ct. Norm Prussin occupies a similar position at WUSB-CC (State University of New York -Stony Brook) and is our Carrier Current Editor, and finally, there's yours truly - spending nearly all the time being Executive Director of IBS itself, holding things together and loving every minute.

Coming up towards the end of November . . . the JCR Annual Directory listing all of you IBS stations in full regalia, along with a bunch of Record Company people you might want to know and also, the final word on the FCC and much more! Stay tuned.

R. A.

#### GOT SOME EQUIPMENT TO SELL? Looking to buy?

TRY A JCR "SPECIAL"  
Ad. this size only \$17 to members,  
\$19 all others. Send check or MO  
with copy to JCR, c/o IBS, P.O.  
Box 592, Vails Gate, NY 12584

## ABOUT PREPARING MANUSCRIPTS FOR THE JCR . . .

The JOURNAL OF COLLEGE RADIO seeks articles and other publishable materials from all sources. The content of such articles should be to improve skills and add to the practical knowledge of college radio station operation and/or broadcast operation in general. JCR also solicits research in the broadcast communication area.

### LENGTH OF ARTICLES

Brief articles tend to get the highest readership. Articles run as short as 2 double-spaced typewritten pages, but 5 to 13 pages is the more common length. Authors should not try to write with a goal of so many words or pages. The most informative and useful articles are thorough but "tightly" written. Restraint from the desire to cover many ideas in one article is suggested.

### PREPARING THE MANUSCRIPT

Manuscripts should be typed, double-spaced, on one side of 8½" x 11" paper, using margins of at least one inch on all edges.

Lengthy quotations, lists, etc. that may be set in different type or with different spacing, should be indented or otherwise so spaced to simplify instructions to the printer.

References, citations, and footnotes should be placed on a separate sheet at the end of the article rather than at the bottom of each page.

Each page should contain in the upper left hand corner, the name of the article, author's name, and page number.

Graphic materials such as figures, charts, and graphs should be in camera ready form and placed on separate sheets at the end of the article. Markings in the body where each graphic material is to be placed is required. Final placement is the decision of the editors.

The writer should strive for short sentences and short paragraphs. Even complex ideas are communicated most readily when broken down into readable parts.

### COMMERCIALISM

Articles written solely to promote the interests of a manufacturer, company, or other commercially involved entities should be avoided.

Also, it should be noted that we are not looking for purely promotional articles on individual radio stations. If an article is to be written about your station, please refrain from listing achievements, numbers of listeners, size of record library, etc. An exception will be made in this policy for articles which attempt to share knowledge on how these things can be obtained.

### PHOTOGRAPHS

Photographs enhance the readership of an article. Each should contain a complete caption identifying the people involved and a description of the action. Over-used shots such as a disc jockey at the board should be avoided. Clever and original black and white 8 x 10 glossies are preferred. A photograph of the author is also requested.

### BIOGRAPHICAL INFORMATION

Each article should be accompanied by a covering letter containing biographical information that may be used in the preparation of the introduction to the article.

### CHANGES

Major changes in an article will be discussed by correspondence between the author and the Editor of JCR. JCR reserves the right to make minor changes and deletions that do not change the substantial meaning of the article.

### DEADLINES

JCR requires that articles intended for a certain issue be received no later than 45 days before the issue date. For the school year 1976-1977, the following publishing schedule is in effect:

Deadlines	Issues
October 12	(November annual directory issue)
December 17	(February 1st issue)
January 17	(March Convention issue)
February 17	(April 1 issue)

JCR will acknowledge receipt of a manuscript as soon as possible. Since several editors may be required to properly review certain articles, three to four weeks may pass before the author is notified of acceptance or rejection.

If an article is accepted for future use, it will be placed on file and reviewed at each deadline date. If an author wishes to withdraw an article, the JCR editor should be notified before the next deadline. Editorial office location and phone are listed below.

### ONE FINAL NOTE

JCR will supply each author with two copies of the issue in which his article appears automatically and without charge. Five additional copies will be sent to various persons so designated by the author.

Manuscripts, book reviews and all other materials should be addressed to:

Rick Askoff, Editor,  
JOURNAL OF COLLEGE RADIO,  
P. O. Box 592,  
Vails Gate, N. Y. 12584  
Phone: (914) 565-6710

# A Natural for Remote Broadcast Production Package Disco



MONO \$1275 STEREO \$1725 SHELF \$75

Pre-wired - can be assembled in 30 minutes - In Stock

**ALLIED BROADCAST EQUIPMENT**

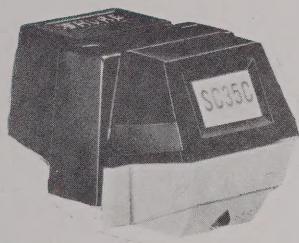
**124 South 6th Street**

**Richmond, Indiana 47374**

**317- 962-8596**

**ANNOUNCING . . .**

# THE FIRST IBS EQUIPMENT CORPORATION **SALE**



Model  
SC35C  
Professional  
Studio  
Phono Cartridge

Only  
\$17.50

A **SHURE** PHONO  
CARTRIDGE DESIGNED  
ESPECIALLY FOR  
BROADCAST  
APPLICATION

#### FOR STEREO, MONO, MATRIX

The SC35C is compatible with virtually all recorded material . . . stereo and monaural . . . LP's, 45's and matrix four-channel recordings.

#### AN ENGINEER'S DREAM

The Model SC35C uses an entirely new stylus assembly that is rigid enough to withstand the punishment of continuous back-cuing, yet agile enough to offer excellent trackability for that "crystal clear sound" even on "hot" 45 RPM records. The SC35C stylus tip features a special *band alignment point*, a Brilliant Orange dot that increases stylus tip visibility and makes record band location "miss-proof"! Frequency response is extremely flat ( $\pm 1$  dB) up to 15,000 Hz, with a smooth roll-off up to 20,000 Hz to minimize high frequency "splatter" in FM broadcasts caused by high frequency pre-emphasis.

ALSO — M44 E Cartridge . . . \$8.75

Shure M44E and SC35C are the most popular brands of studio cartridges at campus radio stations today. However, other models of cartridges are available through the IBS-EC. Consult our catalogue for ordering information and price listings.



Fewer parts...  
fewer problems with  
**audiopak A-2**  
broadcast cartridge

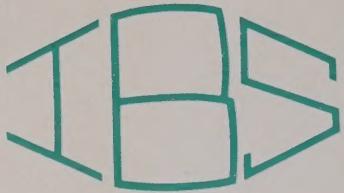
PRICES:	standard package	1-47	48-95	96+
35 sec. (22")	24	1.90	1.85	1.80
70 sec. (44")	24	2.00	1.95	1.85
100 sec. (63")	24	2.05	1.95	1.90

Other tape lengths, as well as all spare parts for audiopak A-2 broadcast cartridges, are available from the IBS Equipment Corp. For price and ordering information, consult the IBS Equipment Corporation catalogue.

#### THE FINE PRINT:

The IBS Equipment Corporation is open to IBS, Inc. members only.  
For information on membership or copies of the IBS-EC Catalog, contact:  
IBS-EC, 339 Windsor Highway, Newburgh, New York 12550

P. O. BOX 592  
VAILS GATE, NEW YORK 12584



the  
**INTERCOLLEGiate  
BROADCASTING  
SYSTEM**

P. O. BOX 592 / VAILS GATE, N. Y. 12584  
(914) 565-6710

## Brings you...

the  
**1976-1977 NATIONAL COLLEGE RADIO  
CONVENTION**

APRIL 1, 2, 3 - 1977 in WASHINGTON, D.C.

Hotel location and registration information  
will be announced shortly ...

KEEP AN EYE ON YOUR MAILBOX !

**The (newly formed) IBS EQUIPMENT CORPORATION**

(see ad on other side of this page)

Special Prices to IBS members on: Belar Labs monitors, Pulse Dynamics Inc. remote equipment, Shure, Stanton cartridges, Sennheiser headphones, E-V microphones, Capitol and 'Scotch' 3-M audio tape

and much more . . .



★  
**TAPED PROGRAMS**

★  
**FCC INFORMATION AND REPRESENTATION**

★  
**FORMAT MAGAZINE**

★  
**FREE CONSULTING SERVICE IN AREAS OF**  
MANAGEMENT  
ENGINEERING  
BUSINESS  
PROGRAMMING  
ETC.

★  
**MANY OTHER SERVICES INCLUDING  
(LAST BUT NOT LEAST):**

**the journal of  
college radio**

9/77  
Wake Forest Univ. Library  
F.C. Box 7777  
Reynolds Station  
Winston-Salem, NC 27109

NON-PROFIT ORG.  
U.S. POSTAGE  
PAID  
PERMIT NO. 8  
Newburgh, N.Y. 12550